

REGULATION 6.42 Reasonably Available Control Technology Requirements for Major Volatile Organic Compound- and Nitrogen Oxides-Emitting Facilities

**Air Pollution Control District of Jefferson County
Jefferson County, Kentucky**

Relates To: KRS Chapter 77 Air Pollution Control

Pursuant To: KRS Chapter 77 Air Pollution Control

Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation establishes the requirements for Reasonably Available Control Technology (RACT) determination, demonstration, and compliance for Volatile Organic Compound (VOC) and Nitrogen Oxides (NO_x) emitting facilities for new or renewed operating permit applications.

SECTION 1 Applicability

1.1 This regulation applies to the VOC emissions from all VOC-emitting facilities located at all major VOC-emitting stationary sources except those facilities whose VOC emissions are specifically and separately regulated by any of the following:

1.1.1 The following Regulation 6 regulations:

Regulation 6.12 - *Standard of Performance for Existing Asphalt Paving Operations*

Regulation 6.13 - *Standard of Performance for Existing Storage Vessels for Volatile Organic Compounds*

Regulation 6.15 - *Standards of Performance for Gasoline Transfer to Existing Service Station Storage Tanks (Stage I Vapor Recovery)*

Regulation 6.16 - *Standard of Performance for Existing Large Appliance Surface Coating Operations*

Regulation 6.17 - *Standard of Performance for Existing Automobile and Light Duty Truck Surface Coating Operations*

Regulation 6.18 - *Standards of Performance for Existing Solvent Metal Cleaning Equipment*

Regulation 6.19 - *Standard of Performance for Existing Metal Furniture Surface Coating Operations*

Regulation 6.20 - *Standard of Performance for Existing Bulk Gasoline Plants*

Regulation 6.21 - *Standard of Performance for Existing Gasoline Loading Facilities at Bulk Terminals*

Regulation 6.22 - *Standard of Performance for Existing Volatile Organic Materials Loading Facilities*

Regulation 6.24 - *Standard of Performance for Existing Sources Using Organic Materials*

Regulation 6.26 - *Standard of Performance for Existing Volatile Organic Compound Water Separators*

Regulation 6.29 - *Standard of Performance for Existing Graphic Arts Facilities Using Rotogravure and Flexography*

- Regulation 6.30 - *Standard of Performance for Existing Factory Surface Coating Operations of Flat Wood Paneling*
- Regulation 6.31 - *Standard of Performance for Existing Miscellaneous Metal Parts and Products Surface Coating Operations*
- Regulation 6.35 - *Standard of Performance for Existing Fabric, Vinyl, and Paper Surface Coating Operations*
- Regulation 6.38 - *Standard of Performance for Existing Air Oxidation Processes in Synthetic Organic Chemical Manufacturing Industries*
- Regulation 6.39 - *Standard of Performance for Equipment Leaks of Volatile Organic Compounds in Existing Synthetic Organic Chemical and Polymer Manufacturing Plants*
- Regulation 6.40 - *Standards of Performance for Gasoline Transfer to Motor Vehicles (Stage II Vapor Recovery and Control)*
- Regulation 6.43 - *Volatile Organic Compound Emission Reduction Requirements*
- Regulation 6.44 - *Standards of Performance for Existing Commercial Motor Vehicle and Mobile Equipment Refinishing Operations*
- Regulation 6.45 - *Standards of Performance for Existing Solid Waste Landfills*
- Regulation 6.48 - *Standard of Performance for Existing Bakery Oven Operations,*

1.1.2 The following Regulation 7 regulations:

- Regulation 7.11 - *Standard of Performance for New Asphalt Paving Operations*
- Regulation 7.12 - *Standard of Performance for New Storage Vessels for Volatile Organic Compounds*
- Regulation 7.14 - *Standard of Performance for Selected New Petroleum Refining Processes and Equipment*
- Regulation 7.15 - *Standards of Performance for Gasoline Transfer to New Service Station Storage Tanks (Stage I Vapor Recovery)*
- Regulation 7.18 - *Standards of Performance for New Solvent Metal Cleaning Equipment*
- Regulation 7.20 - *Standard of Performance for New Gasoline Loading Facilities at Bulk Plants*
- Regulation 7.22 - *Standard of Performance for New Volatile Organic Materials Loading Facilities*
- Regulation 7.25 - *Standard of Performance for New Sources Using Volatile Organic Compounds*
- Regulation 7.35 - *Standard of Performance for New Ethylene Producing Plants*
- Regulation 7.36 - *Standard of Performance for New Volatile Organic Compound Water Separators*
- Regulation 7.51 - *Standard of Performance for New Liquid Waste Incinerators*
- Regulation 7.52 - *Standard of Performance for New Fabric, Vinyl, and Paper Surface Coating Operations*
- Regulation 7.55 - *Standard of Performance for New Insulation of Magnet Wire*
- Regulation 7.56 - *Standard of Performance for Leaks from New Petroleum Refinery Equipment*
- Regulation 7.57 - *Standard of Performance for New Graphic Arts Facilities Using Rotogravure and Flexography*

- Regulation 7.58 - *Standard of Performance for New Factory Surface Coating Operations of Flat Wood Paneling*
- Regulation 7.59 - *Standard of Performance for New Miscellaneous Metal Parts and Products Surface Coating Operations*
- Regulation 7.60 - *Standard of Performance for New Synthesized Pharmaceutical Product Manufacturing Operations*
- Regulation 7.79 - *Standards of Performance for New Commercial Motor Vehicle and Mobile Equipment Refinishing Operations*
- Regulation 7.81 - *Standard of Performance for New or Modified Bakery Oven Operations, and*

1.1.3 The following subparts of 40 CFR Part 60 as specified in Regulation 7.02 *Federal New Source Performance Standards Incorporated By Reference*:

- K - Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978
- Ka - Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification commenced After May 18, 1978, and Prior to July 23, 1984
- Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification commenced after July 23, 1984
- EE - Standards of Performance for Surface Coating of Metal Furniture
- MM - Standards of Performance for Automobile and Light-Duty Truck Surface Coating Operations
- QQ - Standards of Performance for The Graphic Arts Industry: Publication Rotogravure Printing
- RR - Standards of Performance for Pressure Sensitive Tape and Label Surfaces Coating Operations
- SS - Standards of Performance for Industrial Surface Coating: Large Appliances
- TT - Standards of Performance for Metal Coil Surface Coating
- VV - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry
- WW - Standards of Performance for the Beverage Can Surface Coating Industry
- XX - Standards of Performance for Bulk Gasoline Terminals
- BBB - Standards of Performance for the Rubber Tire Manufacturing Industry
- DDD - Standards of Performance for Volatile Organic Compound (VOC) Emissions From the Polymer Manufacturing Industry
- FFF - Standards of Performance for Flexible Vinyl and Urethane Coating and Printing
- GGG - Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries
- HHH - Standards of Performance for Synthetic Fiber Production Facilities
- III - Standards of Performance for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes
- JJJ - Standards of Performance for Petroleum Dry Cleaners

- KKK - Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants
- NNN - Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations
- QQQ - Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems
- RRR - Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes
- SSS - Standards of Performance for Magnetic Tape Coating Facilities
- TTT - Standards of Performance for Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines
- VVV - Standards of Performance for Polymeric Coating of Supporting Substrates Facilities
- WWW - Standards of Performance for Municipal Solid Waste Landfills.

- 1.2 This regulation applies to the NO_x emissions from all NO_x-emitting facilities located at all major NO_x-emitting sources except for those NO_x-emitting facilities that have been or would be subject to NO_x review pursuant to 40 CFR Section 52.21 and Regulation 2.05 *Prevention of Significant Deterioration of Air Quality* after November 15, 1990, or to review under 40 CFR Part 51 Appendix S and Regulation 2.04 *Construction or Modification of Major Sources In or Impacting Upon Non-Attainment Areas (Emission Offset Requirements)* after November 15, 1992.
- 1.3 The requirements of Sections 3, 4, and 5 do not apply to:
 - 1.3.1 Facilities that are exempt from the air permitting requirements of Regulation 2.02 *Air Pollution Regulation Requirements and Exemptions*,
 - 1.3.2 Facilities that are used for emergency purposes only, as referenced in Regulation 1.07 *Emissions During Startups, Shutdowns, Malfunctions, and Emergencies*. Peaking units used for routine peaking purposes do not qualify for this exemption, or
 - 1.3.3 NO_x-emitting facilities (to the extent necessary to avoid excess reductions) for which EPA determines (when EPA approves a plan or plan revision) that either of the following occurs:
 - 1.3.3.1 Net air quality benefits are greater in the absence of reductions of NO_x from the facilities, or
 - 1.3.3.2 Additional reductions of NO_x would not contribute to attainment of the national ambient air quality standard for ozone in the area.

SECTION 2 Compliance Requirements

Facilities subject to this regulation shall comply with Section 3 and the RACT emission-limiting standards and any RACT emission technology determined pursuant to the procedures of Section 4.

SECTION 3 Operating Permit Requirements

- 3.1 The owner or operator of any facility subject to this regulation shall apply for a new or revised permit to operate in accordance with this section by October 1, 1994, unless a later filing date is specified by the District in writing.
- 3.2 If the existing operating permit for any facility subject to this regulation would expire between

the effective date of this regulation and October 1, 1995, or any later filing date specified by the District, then the expiration date of that permit is extended until October 1, 1995, or that later date. This provision shall not apply in a revocation or suspension of a permit pursuant to Regulation 2.09 *Causes for Permit Suspension*.

SECTION 4 RACT Determination Procedure

4.1 VOC-emitting facilities covered by a Control Techniques Guidelines (CTG) or an Alternative Control Techniques (ACT) Document

4.1.1 Each applicant for a new or revised operating permit for a facility for which EPA has published a CTG or ACT document as of the filing deadline for the permit shall be required to propose RACT emission-limiting standards and RACT emission control technology to be imposed by the new or revised operating permit, taking into account the recommendations set forth in the applicable CTG or ACT for the facility. The operating permit application shall include a schedule for implementing the recommended RACT measures as expeditiously as practicable but no later than May 31, 1995.

4.1.2 The District shall make a case-by-case determination of RACT based on the applicant's proposal and the following:

4.1.2.1 The information contained in any applicable CTG or ACT document published by EPA,

4.1.2.2 Emission-limiting standards and emission control technology established as RACT in the implementation plan of any state for that class or category of facility,

4.1.2.3 The technological feasibility of various emission-limiting standards or emission control technology alternatives, taking into account design features of the facility and engineering considerations relevant to retrofitting emission controls to the facility,

4.1.2.4 The economic feasibility of various emission-limiting standards or emission control technology alternatives, including consideration of the cost-effectiveness of available technologies in reducing emissions of VOC from the facility, and

4.1.2.5 All scientific, engineering, economic, and technical material or other relevant information, including compliance test results from the affected facility or substantially similar facilities, that may be available to the District.

4.2 VOC-emitting facilities not covered by a CTG or an ACT Document

4.2.1 Each applicant for a new or revised operating permit under Section 3 for a facility for which EPA has not published a CTG or ACT document as of the filing deadline for the permit may propose RACT emission-limiting standards and RACT emission control technology to be imposed by the new or revised operating permit. Any RACT proposal shall recommend a determination of RACT, setting forth the basis for this determination consistent with the definition of RACT. The operating permit application for any RACT proposal shall include a schedule for implementing the recommended RACT measures as expeditiously as practicable but no later than May 31, 1995.

4.2.2 The District shall make a case-by-case determination of RACT based on the applicant's proposal, if any, and the following:

4.2.2.1 Emission-limiting standards and emission control technology established as RACT in the implementation plan of any state for that class or category of

- facility,
 - 4.2.2.2 The information contained in any applicable guidance published by EPA,
 - 4.2.2.3 The technological feasibility of various emission-limiting standards or emission control technology alternatives, taking into account design features of the facility and engineering considerations relevant to retrofitting emission controls to the facility,
 - 4.2.2.4 The economic feasibility of various emission-limiting standards and emission control technology alternatives, including consideration of the cost-effectiveness of available technologies in reducing emissions of VOC from the facility, and
 - 4.2.2.5 All scientific, engineering, economic, and technical material or other relevant information, including compliance test results from the affected facility or substantially similar facilities, that may be available to the District.
 - 4.2.3 Any applicant for a new or revised operating permit for a non-CTG or non-ACT facility who elects not to propose RACT emission-limiting standards or RACT emission control technology to be imposed by the revised operating permit shall be subject to a RACT determination by the District. Such determination of RACT shall be based on consideration of the criteria listed in section 4.2.2.
- 4.3 NO_x-emitting facilities
 - 4.3.1 Each applicant for a new or revised operating permit shall be required to propose RACT emission-limiting standards and RACT emission control technology to be imposed by the new or revised operating permit, taking into account the recommendations set forth in any applicable CTG, ACT, or other EPA guidance for the facility. The operating permit application shall include a schedule for implementing the recommended RACT measures as expeditiously as practicable but no later than May 31, 1995.
 - 4.3.2 The District shall make a case-by-case determination of RACT based on the applicant's proposal and the following:
 - 4.3.2.1 The information contained in any applicable CTG, ACT, or other guidance document published by EPA,
 - 4.3.2.2 Emission-limiting standards and emission control technology established as RACT in the implementation plan of any state for that class or category of facility,
 - 4.3.2.3 The technological feasibility of various emission-limiting standards or emission control technology alternatives, taking into account design features of the facility and engineering considerations relevant to retrofitting emission controls to the facility,
 - 4.3.2.4 The economic feasibility of various emission-limiting standards or emission control technology alternatives, including consideration of the cost-effectiveness of available technologies in reducing emissions of NO_x from the facility,
 - 4.3.2.5 All scientific, engineering, economic, and technical material or other relevant information, including compliance test results from the affected facility or substantially similar facilities, that may be available to the District, and
 - 4.3.2.6 Source-specific SIP emission standards.
- 4.4 Each determination of RACT pursuant to this Section shall be submitted to EPA as a site-

specific SIP revision.

SECTION 5 Performance Testing

Owners or operators subject to Section 4 shall conduct performance tests or conduct continuous emission monitoring to verify compliance.

- 5.1 For sources that opt for performance testing, a performance test shall be required annually for the first 2 years. If the facility is found to be in compliance during both of these tests, then the performance tests shall be conducted every two years after the second test, unless the facility fails to demonstrate compliance with its VOC or NO_x emission standard. In this case, the facility shall return to the annual performance test schedule for that pollutant until the District determines that compliance has been shown for a duration adequate to demonstrate that emissions are not likely to exceed the standards in the future.
- 5.2 The District shall be notified and the test results shall be submitted to the District pursuant to Regulation 1.04 *Performance Tests*.
- 5.3 All testing or CEM installation, calibration, and certification shall be performed pursuant to 40 CFR Parts 60 and 75 and appropriate appendices.
- 5.4 All exceedances and malfunctions shall be reported pursuant to Regulation 1.07 *Emissions During Startups, Shutdowns, Malfunctions, and Emergencies*.

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